

69296

SECRET

052143Z FEB 70

1970 FEB 5 22 55Z

FM NPIC WASHDC
TO RUVAHA/HQ ASD WPAFB OHIO
RHCOAAA/SAC
RUEFHQA/CSAF
RUCIJFA/HQS AFSC
RUCRJCS/DIAXX-2
BT

S E C R E T CITE NPIC 7936

HQ ASD FOR ASRD, ATTN [REDACTED]

25X1

SAC FOR DIRI AND DISD

CSAF FOR AFNICAD, AFRDRM

HQS AFSC FOR SCSRA ATTN [REDACTED]

25X1

DIA FOR DIAXX-2

SUBJECT: EVALUATION OF BUMPY ACTION MISSION

1. THIS MESSAGE IS IN RESPONSE TO A DIAXX-2 REQUEST FOR A TECHNICAL EVALUATION OF 23 SPECIFIC BUMPY ACTION MISSIONS. AN ESTIMATE OF THE GROUND RESOLVED DISTANCE, IN FEET, AND NOTATIONS OF ANY MAJOR MALFUNCTIONS ARE INCLUDED FOR EACH MISSION. FOLLOWING IS A SUMMARY OF THE ANALYSIS: A TOTAL OF 23 BUMPY ACTION MISSIONS WERE

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EVALUATED. CLOUDS OBSCURED AN AVERAGE OF 45 PERCENT OF THE PHOTOGRAPHY. THE BEST GROUND RESOLUTION IS [REDACTED] ON MSN Q-094. THE MEAN RESOLUTION [REDACTED] THE MAJOR ANOMALIES INCLUDE VEILING, SHUTTER BANDING, OVERLAPPING FRAMES AND PROCESSING INDUCED DENSITY STREAKS. SEVERAL MISSIONS WERE INADEQUATELY EXPOSED.

25X1
25X1

A. MISSION Q-252, DATED 13 FEB 69

(1) LAST TITLED FRAME IS 1728. CLOUDS OBSCURE APPROX. 60 PERCENT OF THE MISSION. BEST GROUND RESOLUTIONS, ESTIMATED [REDACTED] ARE LOCATED ON FRAME 9.

(2) MAJOR ANOMALIES: THE ENTIRE MISSION APPEARS TO BE UNDEREXPOSED.

B. MISSION Q-252, DATED 19 FEB 69

(1) LAST TITLED FRAME IS 1701. CLOUDS OBSCURE APPROXIMATELY 10 PERCENT OF THE MISSION. THE BEST GROUND RESOLUTIONS, ESTIMATED TO BE 5.0 FEET, ARE LOCATED ON FRAME 345.

(2) MAJOR ANOMALIES: PROCESSING OF THIS MISSION ~~CAUSED MANY DEGRADATIONS. PROCESSING STREAKS ARE LOCATED CONTINUOUSLY ALONG BOTH EDGES. MANY PLUS AND MINUS~~

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DENSITY STREAKS AND SPOTS ARE INTERMITTENT THROUGHOUT. SIGNS OF RUBBING, POSSIBLY CAUSED BY A ROLLER, ARE PRESENT ON THE EMULSION SIDE. SMEAR CAUSED BY VEHICLE MANEUVERING, IS NOTED ON FEW FRAMES (EXAMPLE: FRAMES 893 THROUGH 899). HEAVY HAZE IS PRESENT THROUGHOUT THE MISSION. MINOR VEILING OF THE IMAGERY APPEARS TO BE PRESENT DURING THIS MISSION.

D. MISSION Q-044, DATED 20 APR 69

(1) THE LAST TITLED FRAME IS 1720. CLOUDS OBSCURE APPROX. 30 PERCENT OF THE MISSION. THE BEST

DISTRIBUTION		
BY	OFFICE	EX
1	FILE	
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	FPAD/SD	
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3,4	TSSG/AFSD	
	PSC/OG	
	RKD	
	REPRO	
	AID	
	IEG	
	IEG/OD	
	SCIEN	
	WEST	
	EAST	
	M&S	
	IEG/PHD	
5	IAS	
	DIA-XX4	
	SPAD	
	DIA-AP	
		25X

ADVANCE OF
SCHEDULED
WITH DATE

GROUP 1
Excluded from automatic
downgrading and
declassification

SECRET

2

GROUND RESOLUTIONS, ESTIMATED [REDACTED] ARE LOCATED ON FRAME 551. THIS RESOLUTION FIGURE IS DETERMINED FROM NORMAL OPERATION ALTITUDE AND NOT ON THE LOW ALTITUDE FRAMES AT THE BEGINNING OF THE MISSION.

25X1

(2) MAJOR ANOMALIES: THIS MISSION IS TITLED AS Q-044, BUT MISSION NUMBER Q-043 IS RECORDED IN THE DATA BLOCK. SEVERE BANDING IS PRESENT ON MANY FRAMES THROUGHOUT THE MISSION. BEGINNING ON FRAME 40, THE EXPOSURE IS SLIGHTLY UNDER AND DECREASES IN EXPOSURE THROUGH FRAME 88 WHERE THE

1

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IMAGERY IS NOT USEABLE FOR INTERPRETATION. BEGINNING ON FRAME 89, THE EXPOSURE INCREASES, BUT NO GROUND IMAGERY OR CLOUDS ARE VISIBLE AND THE NEGATIVE DISPLAYS ONLY AN OVERALL GRAY TONE. THE TIME DIFFERENCE BETWEEN FRAMES 88 AND 89 IS APPROX. FOUR SECONDS. THE DENSITY CONTINUES TO INCREASE (BUT VOID OF IMAGERY) UNTIL THE FRAMES ACQUIRE MAXIMUM DENSITY ON FRAME 128. GROUND IMAGES BEGIN TO APPEAR ON FRAME 128, BUT ARE HEAVY IN DENSITY. BY FRAME 145 THE EXPOSURE APPEARS NORMAL. FRAMES 1110 TO 1720 ARE UNDEREXPOSED. MINOR VEILING OF THE IMAGERY APPEARS TO BE PRESENT IN THIS MISSION.

D. MISSION Q-063, DATED 29 APR 69

(1) THE LAST TITLED FRAME IS 1815. CLOUDS OBSCURE APPROX. 40 PERCENT OF THE MISSION. THE BEST GROUND RESOLUTIONS, ESTIMATED [REDACTED] ARE LOCATED ON FRAME 1680.

25X1

(2) MAJOR ANOMALIES: VEILING IS PRESENT ON THE TAKE-UP EDGE OF MOST FRAMES.

E. MISSION Q-094, DATED 14 MAY 69

(1) THE LAST TITLED FRAME IS 1238. CLOUDS OBSCURE APPROX. 35 PERCENT OF THE MISSION. THE BEST GROUND RESOLUTIONS, ESTIMATED TO BE [REDACTED] ARE LOCATED ON FRAME 17.

25X1

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(2) MAJOR ANOMALIES: THE FIRST TWO FRAMES OF THE MISSION ARE DOUBLE-EXPOSED. FROM FRAME 1118 TO 1162, THERE ARE MANY DOUBLE-EXPOSED AND OVERLAYING FRAMES. AFTER TITLED FRAME 1162 THERE IS A CONTINUOUS SERIES OF OVERLAYING FRAMES. THE ENTIRE MISSION IS GENERALLY OVEREXPOSED. MINOR VEILING APPEARS TO BE PRESENT AT THE TAKE-UP EDGE OF ALL FRAMES AT THE BEGINNING OF THE MISSION.

F. MISSION Q-120, DATED 26 MAY 69

APPROX. THE PERCENT OF THE MISSION IS 43% THE CLOUDS OBSCURE RESOLUTIONS, ESTIMATED TO BE [REDACTED] ARE LOCATED ON FRAME 1213.

25X1

(2) MAJOR ANOMALIES: SMEAR IS NOTED ON A FEW FRAMES, PROBABLY CAUSED BY VEHICLE MANEUVERING. A SHUTTER HANG-UP CAUSED OVEREXPOSED AREAS ON FRAMES 59 TO 62. MINOR VEILING IS PRESENT THROUGHOUT THE MISSION.

F. MISSION Q-140, DATED 5 JUNE 69

(1) THE LAST TITLED FRAME IS 1409. CLOUDS OBSCURE APPROX. 90 PERCENT OF THE MISSION. NO GROUND RESOLUTION FIGURE IS GIVEN FOR THIS MISSION BECAUSE OF THE WEATHER.

(2) MAJOR ANOMALIES: NONE.

H. MISSION Q-180, 24 JUNE 69

(1) THE LAST TITLED FRAME IS 1390, CLOUDS OBSCURE

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APPROX.

3

40 PERCENT OF THE MISSION. THE BEST GROUND RESOLUTIONS, ESTIMATED TO BE [REDACTED] ARE LOCATED ON FRAME 1273.

25X1

(2) MAJOR ANOMALIES: VEILING IS APPARENT ON ALL CAMERA POSITIONS.

I. MISSION Q-295, 19 AUG 69

(1) LAST TITLED FRAME IS 539. CLOUDS OBSCURE APPROX. 70 PERCENT OF THE MISSION. BEST GROUND RESOLUTION IS ESTIMATED TO BE [REDACTED] IN FRAME 133.

25X1

(2) MAJOR ANOMALIES: WAVERING PLUS DENSITY STREAKS AND BANDING ARE NOTED; ALSO OVERLAPPING FRAMES AT END OF MISSION.

J. MISSION Q-312, 26 AUG 69

(1) LAST TITLED FRAME IS 1358. CLOUDS OBSCURE APPROX. 70 PERCENT OF THE MISSION. BEST GROUND RESOLUTION IS ESTIMATED TO BE [REDACTED] IN FRAME 1144.

25X1

(2) MAJOR ANOMALIES: WAVERING PLUS DENSITY STREAKS ALONG TITLE EDGE THROUGHOUT. BANDING IN EARLY PART OF THE MISSION. FRAMES 551 THROUGH 1100 NOT AVAILABLE FOR EVALUATION. PROCESSING INDUCED STREAKS NOTED IN FRAMES 1101 THROUGH 1358. THE LAST THIRD OF THE MISSION IS OVEREXPOSED.

K. MISSION Q-032, 14 APR 69

(1) LAST TITLED FRAME IS 1808. CLOUDS OBSCURE APPROX. 40 PERCENT OF THE MISSION, BEST GROUND RESOLUTION IS ESTIMATED TO BE [REDACTED] IN FRAME 745.

25X1

(2) MAJOR ANOMALIES: THE OVERALL CONTRAST IS LOW. MINOR BANDING IS EVIDENT.

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L. MISSION Q-036, 16 APR 69

(1) LAST TITLED FRAME IS 1807. CLOUDS OBSCURE APPROX. 75 PERCENT OF THE MISSION. GROUND RESOLUTIONS COULD NOT BE ESTIMATED DUE TO LACK OF GROUND IMAGERY.

(2) MAJOR ANOMALIES: VEILING AND BANDING IS SUSPECTED BUT WEATHER PRECLUDES ACTUAL DETECTION.

M. MISSION Q-054, 25 APR 69.

(1) LAST TITLED FRAME IS 1805. CLOUDS OBSCURE APPROX. 90 PERCENT OF THE MISSION. GROUND RESOLUTIONS COULD NOT BE ESTIMATED DUE TO LACK OF GROUND IMAGERY.

(2) MAJOR ANOMALIES: POSSIBLE PROCESSING INDUCED WAVERING PLUS DENSITY LINES, ARE APPARENT THROUGHOUT EARLY PORTION OF MISSION. LOW FREQUENCY BANDING DETECTED IN ALL FORMATS. OVERALL CONTRAST APPEARS LOW BUT MAY BE DUE TO WEATHER CONDITIONS.

N. MISSION Q-080, 8 MAY 69

(1) LAST TITLED FRAME IS 1605. CLOUDS OBSCURE APPROX. 60 PERCENT OF THE MISSION. BEST GROUND RESOLUTION IS ESTIMATED TO BE [REDACTED] IN FRAME 1402.

25X1

(2) VEILING NOTED IN THE EARLY PORTION OF THE MISSION, APPEARS TO BE ASSOCIATED WITH THE LEADING EDGE OF THE WINDOWS; MOST

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NOTICEABLE WHEN CAMERA IS IN THE IR POSITION.

O. MISSION Q-101, DATED 17 MAY 69

(1) LAST TITLED FRAME IS 1765. CLOUDS OBSCURE APPROX. 75 PERCENT OF THE MISSION. BEST GROUND RESOLUTION, IS ESTIMATED TO BE [REDACTED] IN FRAME 293.

25X1

(2) MAJOR ANOMALIES: BANDING ASSOCIATED WITH UNEVEN SHUTTER MOVEMENT. FRAME COUNTER DID NOT OPERATE. VEILING IS NOTED AT THE BEGINNING OF THE MISSION.

P. MISSION Q-112, 22 MAY 69

(1) LAST TITLED FRAME IS 1765. CLOUDS OBSCURE APPROX. 5 PERCENT OF THE MISSION. BEST GROUND RESOLUTION IS ESTIMATED TO BE [REDACTED] IN FRAME 646.

25X1

(2) MAJOR ANOMALIES: SHUTTER BANDING IS NOTED THROUGHOUT. NO VEILING CAN BE DETECTED ON THIS MISSION.

Q. MISSION Q-371, 12 OCT 69

(1) LAST TITLED FRAME IS 1821. CLOUDS OBSCURE APPROX. 30 PERCENT OF THE MISSION. BEST GROUND RESOLUTION IS ESTIMATED TO BE [REDACTED] IN FRAME 1064.

(2) MAJOR ANOMALIES: SHUTTER BANDING CAN BE DETECTED INTERMITTENTLY THROUGHOUT THE MISSION. FOGGED AREAS OF UNDETERMINED

25X1

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ORIGIN ARE EVIDENT INTERMITTENTLY THROUGHOUT THE FIRST 100 FRAMES.

R. MISSION Q-375, 15 OCT 69

(1) LAST TITLED FRAME IS 1832. CLOUDS OBSCURE APPROX. 40 PERCENT OF THE MISSION. BEST GROUND RESOLUTION IS ESTIMATED [REDACTED] IN FRAME 1803.

25X1

(2) MAJOR ANOMALIES: INTERMITTENT SHUTTER BANDING IN EARLY PORTION OF MISSION.

S. MISSION Q-378, 17 OCT 69

(1) LAST TITLED FRAME IS 1712. CLOUDS OBSCURE APPROX. 50 PERCENT OF THE MISSION. BEST GROUND RESOLUTION IS ESTIMATED TO BE [REDACTED] IN FRAME 300.

25X1

(2) MAJOR ANOMALIES: IN THE BEGINNING OF THE MISSION, MINOR VEILING CAN BE DETECTED ON ALL EXCEPT VERTICAL FRAMES. IT GRADUALLY CLEARS-UP AND CANNOT BE DETECTED AFTER FRAME 300. MINOR SHUTTER BANDING IS PRESENT INTERMITTENTLY THROUGHOUT THE MISSION.

T. MISSION Q-384, 22 OCT 69

(1) LAST TITLED FRAME IS 1822. CLOUDS OBSCURE APPROX. 55 PERCENT OF THE MISSION. BEST GROUND RESOLUTION IS ESTIMATED TO BE [REDACTED] IN FRAME 477. THE PREVIOUSLY

25X1

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REPORTED [REDACTED] ON MISSION Q-384 WAS FOUND TO BE IN ERROR WHEN COMPARED TO THESE MISSIONS AND HAS BEEN RE-ESTIMATED

25X1

25X1

U. MISSION Q-402: 10 NOV 69

(1) THE LAST TITLED FRAME IS 1709. CLOUDS OBSCURE APPROX. 25 PERCENT OF THE MISSION. BEST GROUND RESOLUTION IS ESTIMATED TO BE [REDACTED] IN FRAME 1018.

25X1

(2) MAJOR ANOMALIES: A PLUS DENSITY LINE PARALLEL TO THE MAJOR AXIS AND LOCATED NEAR THE CENTER OF FRAME IS PRESENT CONTINUOUSLY THROUGHOUT THE MISSION. VEILING CAN BE DETECTED IN THE 1L AND 1R CAMERA POSITIONS. SHUTTER BANDING IS PRESENT INTERMITTENTLY IN THE FIRST 550 FRAMES. THE FIRST THIRD OF THE MISSION APPEARS TO BE UNDEREXPOSED. RANDOMLY SPACED PROCESSING STREAKS ARE EVIDENT IN FRAMES 551 THROUGH 1100. A PROCESSING SPLICE IN FRAME 686 COVERS THE ENTIRE FORMAT.

V. MISSION Q-408, 15 NOV 69

(1) THE LAST TITLED FRAME IS 1786. CLOUDS OBSCURE APPROX. 30 PERCENT OF THE MISSION. BEST GROUND RESOLUTION IS ESTIMATED TO BE [REDACTED] IN FRAME 652.

25X1

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(2) MAJOR ANOMALIES: MINOR SHUTTER BANDING AND MINUS DENSITY STREAKS ARE EVIDENT OCCASIONALLY THROUGHOUT THE MISSION.

W. MISSION Q-424, 6 DEC 69

(1) LAST TITLED FRAME IS 1792. THE FIRST 1100 FRAMES WERE NOT AVAILABLE FOR ANALYSIS. THERE ARE NO CLOUDS IN THE IMAGERY RECEIVED. BEST GROUND RESOLUTION IS ESTIMATED TO BE [REDACTED] IN FRAMES 1101 THRU 1190.

25X1

(2) MAJOR ANOMALIES: THE DENSITY OF THE NEGATIVES IS THIN, LONG SHADOWS INDICATE LOW SOLAR ELEVATIONS. THE IMAGERY APPEARS TO BE OUT OF FOCUS.

S E C R E T

-EOM-